

## WHAT IS CLAIMED IS:

We claim:

1. A method, comprising:  
graphically displaying at least one end condition;  
determining a target type of the end condition;  
determining a location of the target; and  
determining when the end condition is valid.
2. The method of claim 1, further comprising graphically displaying valid end conditions.
3. The method of claim 2, further comprising receiving user input placing the target at the location.
4. The method of claim 3, further comprising:  
receiving user input moving the location of the target;  
dynamically solving the at least one end condition based on the current location of the target; and  
dynamically modifying the display to reflect valid end conditions.
5. A method comprising:  
determining targets for a plurality of end conditions;

displaying the targets to a user;  
receiving user input selecting one of the targets;

6. The method of claim 5, providing a pointer;  
receiving user input controlling a location of the pointer on the display;  
receiving user input placing the target at a location;  
determining a valid solution to the end conditions based on the target and its location; and  
displaying the valid solution.

7. The method of claim 5, further comprising dynamically determining and displaying the valid solution as the location of the target changes.

8. The method of claim 6, further comprising tracking the location of the target with the pointer.

9. The method of claim 1, further comprising:  
presenting a graphical user interface, the GUI including a graphics portion;  
displaying a template and the plurality of end conditions graphically in the graphics portion;  
displaying available targets in the current template; and  
displaying the non-solved end conditions differently from solved end conditions.

10. A method, comprising:  
  
receiving user input defining properties of an end condition; and  
  
causing the end condition to be graphically displayed.
11. The method of claim 10, further comprising presenting a graphical user interface to a user.
12. The method of claim 10, wherein the properties include at least one of a priority, a target type, a target name, an offset, and benching information.
13. The method of claim 12, wherein the target type includes at least one of a surface, a material, an elevation, a vertical plane, a horizontal plane, and a point.
14. The method of claim 13, wherein the horizontal plane is one of a feature and an alignment.
15. The method of claim 13, wherein the vertical plane is one of a feature and an alignment.
16. The method of claim 10, further comprising:  
  
locating a point within a template that represents a beginning of the end

condition;

solving the end conditions that begin at the point;

displaying the end condition that has a valid solution.

17. The method of claim 10, further comprising:

solving the end condition starting with a highest priority and proceeding to a lowest priority.

18. The method of claim 10, further comprising chaining a second end condition to the end condition.

19. The method of claim 18, further comprising:

determining a solution to the second end condition; and

validating the solution only when all end conditions in the chain have valid solutions.